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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/826,894 | 04/06/2001 | Koji Noguchi | 35.G2768 | 3411 |

5514 7590 12/29/2003

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| EXAMINER |
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NGUYEN, HOAN C

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| ART UNIT | PAPER NUMBER |
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2871

DATE MAILED: 12/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/826,894

Applicant(s)

NOGUCHI ET AL.

Examiner

HOAN C. NGUYEN

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5,6,9,13 and 16 is/are pending in the application.
- 4a) Of the above claim(s) 4,7,8,10-12,14,15 and 17-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,6,9,13 and 16 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Amendment

Applicant's arguments with respect to Amended claim 1 have been considered but are moot in view of the new ground(s) of rejection. Therefore, this is Final action.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims rejected 1, 3, 5, 6, 9, 13 and 16 are under 35 U.S.C. 103(a) as being unpatentable over Kaneko (US6141070A) In view of Nihira et al. (US611059A).

In regard to claims 1, 3 and 9, Kaneko teaches in the third embodiment (Fig. 11, col. 16 lines 45-49) a liquid crystal device comprising

- two substrates 1 and 4;
- nematic liquid crystal 7 sandwiched between said substrates;

wherein the twisted angle of zero degrees (parallel) or of 180 degrees (anti-parallel) (col. 1, lines 39-43 in the background of invention), therefore, the direction of uniaxial orientation (or nematic director) on rubbing alignment layers formed on upper and lower substrates is either parallel or anti-parallel; the zero-twisted nematic type device is also called an Electrically Controlled Birefringence (ECB) type device according to claim 9.

wherein temperature change of the retardation value of said liquid crystal device is reduced by changing a pre-tilt angle of said liquid crystal molecules so as to compensate for change in a birefringence of said nematic liquid crystal due to changes in temperature according to claim 3 (col. 11 lines 43-45).

In regard to claims 5, 13 and 16, a liquid crystal device using a normally-white mode with no voltage (this is Normal-White display), wherein the high-voltage side (voltage applied) of the driving voltage is used as black, thereby black is displayed by performing phase compensation between liquid crystal layer and retardation layers according to claims 5, 13 and 16.

Kaneko fails to disclose the tilt angle tended to decrease at high temperature due to property of alignment layer.

Nihira et al. teach the tilt angle tended to decrease at high temperature due to property of alignment layer (col. 2 lines 37-39).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify a liquid crystal device as Kaneko disclosed with the tilt angle tended to decrease at high temperature due to property of alignment layer for tending to decrease or non-uniformity tended to result in high temperature.

Allowable Subject Matter

Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not anticipate obvious to one ordinary skill in the art of a liquid crystal display device, with the combination of

- The refractive index anisotropy of liquid crystal composition having the nematic liquid crystal as the primary component at 30°C is 0.150 or more;
- The pre-tilt angle of liquid crystal molecule at 30°C is in a range of 10° to 45° at the substrate interfaces.

Response to Arguments

Applicant's arguments filed on 10/15/03 have been fully considered but they are not persuasive. Applicant's ONLY arguments based on amended claims

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

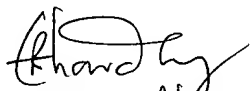
Art Unit: 2871

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0530.

HOAN C. NGUYEN
Examiner
Art Unit 2871

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December 15, 2003


T. Choudhury
Primary Examiner